UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,624	06/24/2005	Masato Honma	IPE-057	7137

20374 7590 03/25/2010

KUBOVCIK & KUBOVCIK
SUITE 1105
1215 SOUTH CLARK STREET
ARLINGTON, VA 22202

EXAMINER	
HIGGINS, GERARD T	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
03/25/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,624	HONMA ET AL.	
	Examiner	Art Unit	
	GERARD T. HIGGINS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-8 and 11-39* is/are pending in the application.

4a) Of the above claim(s) *14,15,18 and 21-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-8,11-13,16,17,19,20 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 12/24/2009 has been entered. Currently claims 1, 3, 5-8, and 11-39 are pending, claims 2, 4, 9, and 10 are cancelled, and claims 14, 15, 18, and 21-38 are withdrawn from consideration.

Specification

2. The disclosure is objected to because of the following informalities: the phrase "the maximum thickness of an area…is 10 microns or more" renders the claim awkward because there is no maximum. This phrase is present at least at page 6, lines 21-22 and page 25, lines 8-10; however, applicants are required to correct this problem as it pertains to any awkward phraseology of this type throughout the specification as originally filed. The Examiner interprets the limitation to be "the thickness of an area…is 10 microns or more."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claim 39, it seeks to claim in section (f) "an outermost filament in the resin of said thermoplastic resin layer...where the thickness of the resin of said thermoplastic resin layer from the surface of said thermoplastic resin layer is smallest." This does not find support in the specification as originally filed. The Examiner notes that this language attempts to draw support from page 25, line 6 to page 26, line 4; however, these filaments are not the "outermost filaments" as defined by this section. This language is attempting to claim the "minimum innermost filaments." Please see section 5 below for how these limitations are being interpreted as they are also indefinite, and also a suggestion of how to phrase sections (f) and (g) of this claim.

With further regard to claim 39, the Examiner does not find support for the limitations seen in section (g) in combination with section (f) in the specification as originally filed. The limitations are trying to set forth the distance between the outermost and innermost filaments; however, this does not agree with the definition of the term innermost as provided in the specification as originally filed in light of the definitions now provided in section (f) of the claim. Please see section 5 below for suggested language as this section is also indefinite.

5. Claims 1, 3, 5-8, 11-13, 16, 17, 19, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "parallel to the surface of the layered product" in the 23rd line of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "parallel to the first and second opposed surfaces of the layered product."

Claim 1 recites the limitation "the surface of the thermoplastic resin layer" in the 31st to 32nd and the 34th lines of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "the second opposed surface of the thermoplastic resin layer."

Claim 6 recites the limitation "the molded object" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "the layered product."

Claim 7 recites the limitation "the face of said thermoplastic resin layer" in the third and fourth lines of the claim, i.e. two instances. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "the second opposed surface of the thermoplastic resin layer."

Claim 7 recites the limitation "the surfaces of said molded object" in the sixth line of the claim. There is insufficient antecedent basis for this limitation in the claim. The Examiner interprets this to be "are positioned on opposing surfaces of said molded object."

Claim 17 recites the limitation "parallel to the surface of the layered product" in the 26th line of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "parallel to the first and second opposed surfaces of the layered product."

Claim 17 recites the limitation "said rugged interface" in 27th line of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "said continuous rugged interface."

Claim 17 recites the limitation "the surface of the thermoplastic resin layer" in the 33rd to 34th and the 36th lines of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, this limitation will be interpreted to be "the second opposed surface of the thermoplastic resin layer."

Claim 39 recites the limitation "the region" in 18th, 21st, and 29th lines of the claim. There is insufficient antecedent basis for this limitation in the claim. See the explanation of how section (f) and (g) of the claim will be interpreted below.

Claim 39 recites the limitation "the surface of the thermoplastic resin layer" in the 19th to 20th, 22nd to 23rd, and the 30th lines of the claim. There is insufficient antecedent basis for this limitation in the claim. See the explanation of how section (f) and (g) of the claim will be interpreted below.

With regard to claim 39, the fact that the continuous rugged interface is formed in between the innermost filament and the outermost filament is indefinite because the term outermost filament takes on two different definitions between section (f) and section (g) of the claim. At first it refers to the filament closest to the thermosetting resin

layer where the thermoplastic resin layer is thinnest, and then it refers to the filament closest to the second opposed surface in the thermoplastic resin layer. The Examiner would find support and find definite the following language for sections (f) and (g), which is how the claim will be interpreted for examination (see page 25, line 6 to page 26, line 4 of applicants' specification):

"(f) said continuous rugged interface is formed between a maximum innermost filament in the resin of said thermoplastic resin layer where the thickness of the resin of said thermoplastic resin layer from the second opposed surface of said thermoplastic resin layer is largest and a minimum innermost filament in the resin of said thermoplastic resin layer where the thickness of the resin of said thermoplastic resin layer from the second opposed surface of said thermoplastic resin layer is smallest;

and wherein,

(g) a distance between an outermost filament in said filaments in the resin of said thermoplastic resin layer in the thickness direction thereof and the maximum innermost filament is 10 μm or more."

Claim Rejections - 35 USC § 102/103

6. Claims 1, 3, 5, 6, 8, 11-13, 16, 17, 19, 20, and 39 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Evans et al. (4,604,319).

With regard to claims 1 and 39, Evans et al. disclose the composite **24** of Figure 3.

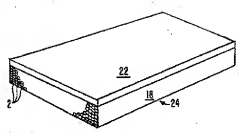


FIG. 3

The composite is comprised of a fiber resin matrix **18** comprising a thermosetting resin and reinforcing filaments **2**, which reads on applicants' thermosetting resin layer and reinforcing continuous filaments arranged in one direction, and also a layer of interleaf material **22** comprised essentially of a thermoplastic resin, which reads on applicants' thermoplastic resin layer (col. 4, line 29 to col. 5, line 7). The composite is made by first forming a prepreg of the filaments in the thermosetting resin and then placing a layer of the thermoplastic resin onto the prepreg. The composite is then cured, for example, at 350 °F and 100 psi, wherein 100 psi is approximately 0.7 MPa (col. 9, lines 27-28).

Given the fact that the Examiner has provided a layered composite identical to that claimed, which has been prepared at a pressure that is analogous to applicants' preferred pressure (page 9, lines 7-11) and using thermoplastic and thermosetting resins that are among applicants' preferred resin (page 8, lines 14-22), the Examiner deems that the composite of Evans et al. will inherently possess the continuous rugged interface region claimed, including a portion of filaments that exist in both the thermosetting and thermoplastic resin layers.

With regard to the limitations in claim 1 and the similar limitations of claim 39 that "the thickness of the area in said thermoplastic resin layer between the outermost

reinforcing continuous filament with respect to the second opposed surface of the thermoplastic resin layer and an innermost reinforcing continuous filament with respect to the second opposed surface of the thermoplastic resin layer is 10 μm," the Examiner notes that the thermoplastic interleaf layer of Evans et al. may be as thick as 50 μm (col. 9, line 67 to col. 10, line 3). For the same rationale as provided above concerning the "continuous rugged interface," the Examiner deems that the composite of Evans et al. having a thermoplastic interleaf layer of 50 μm will inherently possess the reinforcing filaments **2** in at least a 10 μm thickness region as claimed.

Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the temperature and pressure conditions under which this composite was made to any amount in order to allow the reinforcing filaments **2** of the fiber resin matrix **18** to penetrate into the thermoplastic interleaf material **22** to any depth, including at least 10 μm as claimed. The rationale behind this is that these reinforcing filaments would provide sturdiness to the laminate, and it would have been obvious to one having ordinary skill in the art to determine the penetration thickness wherein the overall laminate would exhibit the best properties, i.e. shear modulus, bonding strength, compression strength, etc. This is mere experimental optimization.

With regard to claim 3, Evans et al. state that their composite has unique toughness, shear resistance, etc. up to 270 °F, which is 132 °C (col. 3, lines 22-29). This means that the resins used for the thermosetting layer will inherently have to have

a glass transition temperature higher than 132 °C or the composite would melt/deform, and therefore the composite would not possess the unique properties disclosed.

With regard to claim 5, given that the maximum thickness of the thermoplastic layer is 50 μm and the Examiner has either inherently or alternatively rendered obvious the limitation wherein the reinforcing filaments are in a thickness area greater than 10 μm, the limitations of this claim have been met.

With regard to claim 6, it is clear from at least Figure 3 and the thicknesses of the thermoplastic and thermosetting layers at col. 10, lines 1-3 that the thermoplastic layer accounts for between 0.1 to 50 % of the surface area of the layered product.

With regard to claim 8, for all of the reasons mentioned previously with regard to claim 1, the Examiner deems the limitations of this claim to be inherently present in the composite of Evans et al.

With regard to claim 11, the fibers may be carbon (col. 5, lines 8-19).

With regard to claim 12, the thermosetting resin may preferably be mainly composed of epoxy resin (col. 5, lines 20-23). The Examiner clearly envisages using epoxy resins as the main resin.

With regard to claim 13, the thermoplastic resins used may be the same as those claimed (col. 7, lines 48-53).

With regard to claims 16 and 17, the composite of Evans et al. may be used in the manner illustrated in Figure 4 and in Reexamination claims 1-3.

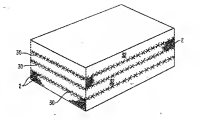


FIG. 4

This composite may have a plurality of the individual interleafed fiber resin matrix materials **24** of Figure 3 (see also Reexamination claims 1-3). Two of these composite materials bound to each other read on claims 16 and 17.

With regard to claims 19 and 20, these materials may be used as structural parts in airplanes (col. 1, lines 29-36 and col. 9, lines 47-52). Airplanes contain electronic apparatus, and therefore these materials being used on an airplane read on "a housing of an electric or electronic apparatus" as claimed.

Claim Rejections - 35 USC § 103

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (4,604,319).

Evans et al. teach broadly in their Reexamination claim 1 that a plurality of composites may be bound to one another; however, they do not specifically state that the thermoset layers may be bound and have the thermoplastic layers form opposing surfaces of the overall molded composite.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made composites having a layer structure of A-B-A-B or B-A-A-B depending upon the end use of the laminate. One of ordinary skill would know that this would be the two possible combinations contemplated by the Reexamination claim 1 of Evans et al. The rationale for having different outer layers is whether the outermost layer should possess the high tensile and flexural strength, which will be imparted by the thermosetting resin, or have the thermoplastic resin layer as the outermost layers, which will provide an adhesive layer to attach to other objects.

8. Claims 1, 3, 5-8, 11-13, and 39 are rejected under 35 U.S.C. 103(a) as obvious over Obara (JP 07-047152), machine translation included in view of Nishimura et al. (JP 07-112039), machine translation included.

With regard to claims 1, 5, and 39, Obara teaches a layered tennis racket frame [0007]. The frame is comprised of a thermosetting resin [0008], a thermoplastic resin [0009], and continuous fibers in both the thermosetting [0008] and thermoplastic layers [0012] from the point of providing the greatest strength of the molded object. With regard to the limitation that the interface is "a continuous rugged interface," Obara teaches at [0015] that the "most important point about this invention" is the fact that the thermosetting resin and thermoplastic layers are "intermingled;" furthermore, Obara shows this intermingling in Figures 3 and 4.

【図３】

【図４】

The intermingling is shown in the area **10**. The material of part **4** is a thermosetting resin identical to the material of part **6**. The material of part **5** is a thermoplastic resin identical to the material of part **7**. The Examiner deems this teaches a two-layer structure as parts **4** and **6** are the thermosetting material layer and parts **5** and **7** are the thermoplastic layer; furthermore, Figure 4 clearly shows carbon fibers **8** passing through the interface and going through both the thermosetting and thermoplastic layers. This means that parts **4** and **6** are one material, and parts **5** and **7** are one material. The intermingling of **4** and **6** with **5** and **7** at the boundary between **6** and **7** reads on applicants' rugged interface region. The Examiner deems the intermingling in this boundary region reads on applicants' continuous rugged interface; however, Obara does not specifically teach the thickness of the area where said continuous filaments exist in said thermoplastic resin layer.

Nishimura et al. disclose at [0009] that it is known to make a thermoplastic layer of a tennis racket 1 mm in thickness. Clearly, the fibers contained in said thermoplastic layer would not be in a region larger than 1mm or 1000 microns.

Since Nishimura et al. and Obara are both drawn to molded tennis rackets that have thermosetting and thermoplastic resin layers with reinforcing fibers that are rugged/intermingled or have an irregular pattern at the interface of the layers; it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thermoplastic layer of Obara approximately 1 mm (1000 microns) in thickness and therefore to contain the reinforcing fibers in an area smaller than that, including the thickness regions claimed. One of ordinary skill in the art would understand that the thickness region of reinforcing fibers would have a direct impact on the rigidity and overall strength of the resins; furthermore, one of ordinary skill would know to make the reinforcing fiber not present on the surface of the tennis racket in order to prevent splintering of said reinforcing fibers, which could injure the consumer of said tennis racket.

The size and thickness of tennis racquets are driven by having a lightweight yet strong composite. One of ordinary skill would know to place the reinforcing fibers in any thickness amount in said thermoplastic resin, including greater than 10 microns or between 10 and 1000 microns as claimed, to provide the proper strength to the resultant article.

With regard to claims 3 and 12, Obara teaches at [0008] that epoxy resin is preferred as the thermosetting resin. He also teaches at [0021] that the thermosetting resin is heated in a die temperature of 70 °C, and then stiffened at 160 °C for 20 min. Judging by the fact that the preferentially used materials are the same and that these heating temperatures are greater than 60 °C, Obara will intrinsically read on claim 3.

With regard to claim 6, since the racket frame is formed as a tube comprising joined thermosetting and thermoplastic layers, and that the layers may be formed in any order [0014]; it is clear that the thermoplastic layer may comprise the inner layer/surface of the frame, and therefore that would lead it to intrinsically have a surface area between 0.1 and 50% of the total surface area. This is true because the outer layer of the racket frame would have a greater surface area than the inner layer, and since the total surface area of the frame must be the sum of the surface areas of the inner and outer layers; it would necessarily be true that the inner layer must have a surface area between 0.1 and 50%.

With regard to claim 7, the Examiner deems the limitations of this claim to be a mere duplication of parts. It has been held that "mere duplication of parts has no patentable significance unless a new and unexpected result is produced." Please see MPEP 2144.04 and *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). In this instance merely duplicating the stratum of a thermoplastic and thermosetting resins with reinforcing fibers contained therein would predictably add to the structural integrity of the device overall.

With regard to claim 8, considering the fact that these materials are the same; a test piece formed in the same manner of applicants would intrinsically comprise the bonding strength claimed; furthermore, Obara mentions the intensity, rigidity, and endurance of the racket at [0006].

With regard to claim 11, Obara teaches using carbon fibers at [0008] and [0012].

With regard to claim 13, Obara teaches at [0009] the different thermoplastic materials, including polyolefins, polyamides, polyesters, acrylics, polycarbonates, and polystyrenes.

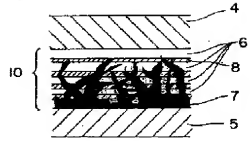
9. Claims 16, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inogakura et al. (JP 09-277420) in view of Obara (JP 07-047152) and further in view of Nishimura et al. (JP 07-112039).

With regard to claim 16, Inogakura et al. teach bonding of a first member to a second member by way of an adhesive to create and "integral moulding" of said members [0011]; however, it does not teach the 1st member of applicants' claim 1.

Obara teaches a layered tennis racket frame [0007]. The frame is comprised of a thermosetting resin [0008], a thermoplastic resin [0009], and continuous fibers in both the thermosetting [0008] and thermoplastic layers [0012] from the point of providing the greatest strength of the molded object. With regard to the limitation that the interface is "rugged," Obara teaches at [0015] that the "most important point about this invention" is the fact that the thermosetting resin and thermoplastic layers are "intermingled;" furthermore, Obara shows this intermingling in Figure 3.

【図３】

【図４】



The intermingling is shown in the area **10**. The material of part **4** is a thermosetting resin identical to the material of part **6**. The material of part **5** is a thermoplastic resin identical to the material of part **7**. The Examiner deems this teaches a two-layer structure as parts **4** and **6** are the thermosetting material layer and parts **5** and **7** are the thermoplastic layer; furthermore, Figure 4 clearly shows carbon fibers **8** passing through the interface and going through both the thermosetting and thermoplastic layers. This means that parts **4** and **6** are one material, and parts **5** and **7** are one material. The intermingling of **4** and **6** with **5** and **7** at the boundary between **6** and **7** reads on applicants' rugged interface region. The Examiner deems the intermingling in this boundary region reads on applicants' continuous rugged interface. With regard to the limitation that the thermoplastic resin layer is on the surface of the object, i.e. the molded object, Obara teaches at [0014] that the object may have the thermosetting resin or the thermoplastic layer as the outer layer for the racket frame; however, Obara does not specifically teach the thickness of the area where said continuous filaments exist in said thermoplastic resin layer.

Nishimura et al. disclose at [0009] that it is known to make a thermoplastic layer of a tennis racket 1 mm in thickness. Clearly, the fibers contained in said thermoplastic layer would not be in a region larger than 1 mm or 1000 microns.

Since Nishimura et al. and Obara are both drawn to molded tennis rackets that have thermosetting and thermoplastic resin layers with reinforcing fibers that are rugged/intermingled or have an irregular pattern at the interface of the layers; it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the thermoplastic layer of Obara approximately 1 mm (1000 microns) in thickness and therefore to contain the reinforcing fibers in an area smaller than that, including the thickness regions claimed. One of ordinary skill in the art would understand that the thickness region of reinforcing fibers would have a direct impact on the rigidity and overall strength of the resins; furthermore, one of ordinary skill would know to make the reinforcing fiber not present on the surface of the tennis racket in order to prevent splintering of said reinforcing fibers, which could injure the consumer of said tennis racket.

The size and thickness of tennis racquets are driven by having a lightweight yet strong composite. One of ordinary skill would know to place the reinforcing fibers in any thickness amount in said thermoplastic resin, including greater than 10 microns or between 10 and 1000 microns as claimed, to provide the proper strength to the resultant article.

Since Inogakura et al. and Obara in view of Nishimura et al. are drawn to fiber-reinforced resin compositions that provide high strength and rigidity, it would have been

obvious to one having ordinary skill in the art of fiber-reinforced resins at the time the invention was made to substitute the 1st member of Inogakura et al. with the fiber-reinforced resin composition of Obara in view of Nishimura et al. The results of such a substitution would have been known by one having ordinary skill, specifically an increase in the strength, rigidity, and endurance of the bonded members.

With regard to claim 17, Inogakura et al. disclose that the 2nd member is comprised of a thermoplastic [0010].

With regard to claim 19, Inogakura et al. disclose that the integrated molded object may be used with electrical and electric equipment [0015].

With regard to claim 20, while there is no disclosure that the fiber-reinforced plastic is a part member or a panel of a motor vehicle, a two-wheeler, a bicycle, an aircraft, or an architecture as presently claimed, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. part member or a panel of a motor vehicle, a two-wheeler, a bicycle, an aircraft, or an architecture, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art fiber-reinforced plastic and further that the prior art structure which is a fiber-reinforced plastic identical to that set forth in the present claims is capable of performing the recited purpose or intended use. Lastly, an aircraft, a two-wheeler, and a part member of a motor vehicle all may comprise electronic apparatuses, and therefore there is indirect disclosure of claim 20 in Inogakura et al.

Response to Arguments

10. Applicant's arguments, see Remarks, filed 12/24/2009, with respect to the objections to claims 1 and 17, the rejection of claims 1, 3, 5-8, 11-13, 16, 17, 19, and 20 under 35 U.S.C. 112, first paragraph, and the previous rejection of claims 1, 3, 5-13, 16, 17, 19, and 20 under 35 U.S.C. 112, second paragraph have been fully considered and are persuasive. The relevant objections/rejections have been withdrawn.

With regard to the term "rugged," applicants' arguments are convincing in the fact that the term "rugged" is a broad recitation and not indefinite. As far as the prior art is concerned, any surface/interface not described as perfectly flat will be deemed to be rugged.

With regard to the translation of the Obara reference prepared by applicants (see page 23 of applicants' Remarks), the Examiner notes that this translation is being provided as a further concise explanation of the Obara (JP 07-047152), which was previously cited in the IDS submitted 04/03/2008. The translation has been made apart of the record.

With regard to the specification objection, the Examiner understands applicants' position set forth on page 20 of their Remarks; however, the objection has been repeated for consistency in the record vis-à-vis the similar claim objections seen in section 4 of the Office action mailed 06/24/2009.

11. Applicant's arguments filed 12/24/2009 have been fully considered but they are not persuasive.

Applicants argue that the pictures exhibited during the Applicant Initiated Interview on 12/23/2009 showed that applicants' interface was a continuous rugged interface as compared to that of Obara, which showed domains and no interface.

The Examiner notes that some of this data was seen, it was not completely clear from the pictures how that prior art structure differed from the claimed invention; furthermore, the Examiner notes that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding Obara must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is to

obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001".

From all of the teachings of the prior art, the Examiner maintains his position, absent objective evidence to the contrary, that the intermingling of Obara reads on applicants' continuous rugged interface because one interface can be recognized at least from Figure 4 of Obara; furthermore, given applicants' arguments concerning [0026] of the translation and the broad meaning given to the term "rugged," it is unclear whether the comparative example mentioned would also intrinsically exhibit the continuous rugged interface claimed.

Lastly, it appears to the Examiner that applicants are recognizing properties that are inherently present in prior art structures. Given the amendments to applicants' claims, the Examiner has presented a rejection based upon Evans et al. The Examiner submits, absent objective evidence to the contrary, that the claimed invention will inherently be anticipated by, or in the alternative be obvious over, the composite of Evans et al.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has cited US 3,472,730 which is one of the first prepreg laminated with a diverse resin, including using a thermoplastic resin, US 4,957,810 which is drawn to very thin thermoplastic resin layers on fiber-reinforced thermosetting resin layers, and US 4,938,823 which teaches having the thermosetting

layer have "interstices or deformations" that aid in the bonding between the thermoplastic and thermosetting layers (see Figure 4 and col. 4, lines 33-49).

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-Th 10am-8pm est. (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Supervisory Patent Examiner
Art Unit 1794

GERARD T. HIGGINS
Examiner
Art Unit 1794

/G. T. H./
Examiner, Art Unit 1794